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> HONGTONGAAD 4.2KW 24V Hybrid Solar Inverter User Manual

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HONGTONGAAD Hybrid Solar Inverter User Manual

Model: 4.2KW 24V 220-240v

1. INTRODUCTION

This user manual provides essential information for the safe and efficient operation of your HONGTONGAAD Hybrid Solar Inverter. Please read this manual thoroughly before installation, operation, or maintenance to ensure proper usage and to prevent damage to the unit or injury to personnel.

The HONGTONGAAD Hybrid Solar Inverter is designed to provide reliable power conversion for solar energy systems, featuring dual output capabilities and an integrated MPPT 120A solar charger. It is suitable for various applications requiring efficient solar power management.



Figure 1: Front view of the HONGTONGAAD 4.2KW 24V Hybrid Solar Inverter, showing the display screen, control buttons, and branding.

2. SAFETY INSTRUCTIONS

Always adhere to the following safety precautions to minimize risks:

- Ensure all electrical connections are made by qualified personnel.
- Do not attempt to disassemble or repair the inverter yourself. Refer to authorized service personnel.
- Keep the inverter away from water, moisture, and flammable materials.
- Ensure adequate ventilation around the inverter to prevent overheating.
- Verify input and output voltages match the inverter's specifications before connecting.

3. KEY FEATURES

- **Hybrid Functionality:** Seamlessly integrates solar power, utility power, and battery power.

- **MPPT 120A Solar Charger:** Maximizes power harvest from solar panels.
- **Dual Output:** Provides flexible power distribution.
- **Comprehensive Protection:** Includes overheating and battery undervoltage protection.
- **User-Friendly Interface:** Easy setup with a clear display for daily power generation and current curves.
- **Factory Reset Option:** One-key restoration to factory settings for convenience.

4. SETUP AND INSTALLATION

This section outlines the general steps for setting up your hybrid solar inverter. For detailed wiring diagrams and specific installation requirements, please consult a qualified electrician.

1. **Unpacking:** Carefully remove the inverter from its packaging. Inspect for any physical damage.
2. **Mounting:** Choose a suitable location that is dry, well-ventilated, and away from direct sunlight or heat sources. Ensure the mounting surface can support the inverter's weight (approximately 4.41 pounds / 2000 grams).
3. **Wiring Connections:**
 - Connect the solar panel array to the MPPT input terminals.
 - Connect the battery bank (24V for this model) to the battery terminals, observing polarity.
 - Connect the AC input from the utility grid (if applicable) to the AC input terminals.
 - Connect your loads to the AC output terminals.
4. **Initial Power-Up:** Once all connections are secure, switch on the battery breaker, then the solar array breaker, and finally the AC input breaker (if used). The inverter display should illuminate.

5. OPERATING INSTRUCTIONS

The inverter features an intuitive display and control buttons for easy operation and monitoring.

5.1 Display and Navigation

The LCD screen displays real-time operational data, including input/output voltages, current, power generation curves, and battery status. Use the 'ESC', 'UP', 'DOWN', and 'ENTER' buttons to navigate through menus and adjust settings.

5.2 Monitoring Power Generation

The solar charge controller can display the daily power generation curve and current curve, allowing users to monitor the system's performance effectively.

5.3 System Settings

Access the system settings menu to configure parameters such as battery type, charging current, output voltage, and load priority. Refer to the on-screen prompts for specific setting adjustments. A one-key factory reset option is available for restoring default settings.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your inverter.

- **Cleaning:** Periodically clean the exterior of the inverter with a dry, soft cloth. Do not use liquid cleaners.
- **Ventilation:** Ensure that the ventilation openings are clear of dust and debris to prevent overheating.

- **Connections:** Annually check all electrical connections for tightness and signs of corrosion.
- **Battery Inspection:** If using lead-acid batteries, check electrolyte levels and terminal cleanliness as per battery manufacturer guidelines.

7. TROUBLESHOOTING

This section provides solutions to common issues. For problems not listed here, contact technical support.

Problem	Possible Cause	Solution
Inverter not powering on	No battery connection; Battery voltage too low; DC breaker off	Check battery connections; Charge battery; Turn on DC breaker
No AC output	Overload; Short circuit; AC breaker off	Reduce load; Check for short circuits; Turn on AC breaker
Low solar charging	Shaded panels; Dirty panels; Incorrect panel wiring	Clear shading; Clean panels; Verify wiring
Overheating error	Insufficient ventilation; Ambient temperature too high	Ensure clear airflow; Relocate inverter to cooler area

8. TECHNICAL SPECIFICATIONS

Parameter	Value
Model	4.2KW 24V 220-240v Hybrid Solar Inverter
Brand	HONGTONGAAD
Rated Power	4.2KW
Battery Voltage	24V
Output Voltage	220-240V
MPPT Solar Charger Current	120A
Package Dimensions	0.39 x 0.39 x 0.39 inches (approximate)
Item Weight	4.41 pounds / 2000 Grams
Assembly Required	No

9. WARRANTY AND SUPPORT

For warranty information and technical support, please contact HONGTONGAAD customer service. Keep your purchase receipt and product serial number handy when contacting support.

Protection plans are available for extended coverage:

- 2-Year Protection Plan: \$79.99
- 3-Year Protection Plan: \$99.99
- Complete Protect: \$16.99/month (covers all eligible past and future purchases)

For returns, a 30-day refund/replacement policy is typically available from the date of purchase.

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